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AMENDMENTS TO THE CLAIMS

1. (Currently amended) An apparatus for forming a multiplexed transport stream to deliver an interactive program guide (IPG), the apparatus comprising:

an encoder and packetizer adapted (i) to receive a plurality of video inputs, an audio input, and a plurality of data inputs, and (ii) to encode and packetize the inputs to generate a plurality of video packet streams, an audio packet stream, and a plurality of data packet streams collectively forming said IPG;

a multiplexer and assigner adapted (i) to receive the plurality of video packet streams, the audio packet stream, and the plurality of data packet streams, (ii) to assign program identifiers (PIDs) to said packet streams of said IPG, and (iii) to multiplex said packet streams to form the transport stream; and

a program mapping table for storing (i) PID assignment of video, audio, and data PIDs associated with a timeslot having a viewership level greater than a predetermined threshold, (ii) PID assignment of video and audio programming associated with a predetermined time period comprising future viewership time schedules, and (iii) PID assignment of data PIDs associated with said video and audio programming associated with said predetermined time period, said video and audio PIDs associated with said future viewership time schedules being mapped with data PIDs associated with said future viewership time schedules, said mapping being based on periodicities of a timeslot in a day, a particular IPG page, and a particular day associated with said future viewership time schedules, and popularly viewed video PIDs being distributed evenly among data PIDs to provide load balancing;

means for identifying a largest prime number that is less than or equal to a number of data PIDs associated with said future viewership time schedules; and

means for assigning a data PID to each video PID by performing a Modulo calculation of $x \text{ Mod } y = z$, where x equals a video PID value, y equals said largest prime number, and z equals a remainder, and said remainder is assigned to said data PID.

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2. (Previously presented) The apparatus of claim 1, wherein said timeslot is associated with prime time viewing.

3. (Previously presented) The apparatus of claim 2, wherein said prime time viewing is associated with one of local, regional, and national viewership.

4-5. (Cancelled)

6. (Currently amended) The apparatus of claim 15, wherein a plurality of video PIDs are respectively mapped to each data PID.

7-9. (Cancelled)

10. (Previously presented) A method for forming a multiplexed transport stream to deliver an interactive program guide (IPG), the apparatus comprising:
encoding and packetizing a plurality of video inputs, an audio input, and a plurality of data inputs to generate a plurality of video packet streams, an audio packet stream, and a plurality of data packet streams collectively forming said IPG;
assigning program identifiers (PIDs) to said plurality of video packet streams, the audio packet stream, and the plurality of data packet streams of said IPG;
mapping (i) PID assignment of video, audio, and data PIDs associated with a timeslot having a viewership level greater than a predetermined threshold, (ii) PID assignment of video and audio programming associated with a predetermined time period comprising future viewership time schedules, and (iii) PID assignment of data PIDs associated with said predetermined time period; and (iv) mapping said video and audio PIDs associated with said future viewership time schedules to data PIDs associated with said future viewership time schedules;
multiplexing said packet streams to form the transport stream;
identifying a largest prime number that is less than or equal to a number of data PIDs associated with said future viewership time schedules; and

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assigning a data PID to each video PID by performing a Modulo calculation of $x \text{ Mod } y = z$, where x equals a video PID value, y equals said largest prime number, and z equals a remainder, and said remainder is assigned to said data PID;

wherein said mapping is based on periodicities of a timeslot in a day, a particular IPG page, and a particular day associated with said future viewership time schedules, and popularly viewed video PIDs are distributed evenly among data PIDs to provide load balancing.

11. (Previously presented) The method of claim 10, wherein said timeslot is associated with prime time viewing.

12. (Previously presented) The method of claim 10, wherein said prime time viewing is associated with one of local, regional, and national viewership.

13-14. (Cancelled)

15. (Currently amended) The method of claim 10, further comprising mapping a plurality of video PIDs respectively to each data PID.

16-18. (Cancelled)